

BOOK REVIEWS

CONTEMPORARY HYDROLOGY edited by Robert L. Wilby, John Wiley & Sons, Chichester, 1996. No. of pages: xiii+354. Price: £34.95 (hb). ISBN 0-471-96636-3.

This book successfully presents what might be called environmental hydrology or even geographical hydrology; most of the authors are or were professional geographers and there is a solid thread of space–time, scale, and systems culture running through the text. There is also a healthy preoccupation with the storages in the land phase of the hydrological cycle, rather than the fluxes beloved of the former giants of hydrology – the civil engineers.

Wilby makes more general claims about the material he has brought together: 'Contemporary hydrology has imbued wider issues of sustainability, holism and ecocentricity . . .' (page 1 in his own introductory chapter). On page 19 in the same chapter he suggests that, 'Sustainable approaches to water management must therefore integrate land and water planning, adopt a new environmental ethic, recognise links between system components and address trans-scale problems within a holistic framework'. Thankfully, there is less evidence of these values between the covers, as the separate, specialist authors give of their best – but they do it in a way that invites incorporation of their technical virtues by a virtuous, sustainable world. In the opinion of the reviewer, 'holistic' books are best cooked up by one author with a vision and a thread.

There are two halves to the book, the science and technical foundation and more applied topics. In the former division are approaches through the continuity equations, hydrochemical processes and mathematical modelling. Additionally there is a welcome chapter on monitoring and measurement methods which brings us up to date beyond weirs and flumes and into automation and remote sensing. As an example of the practical slant, even in this section of the book, Chris Soulsby moves from hydrochemical processes and catchment solute budgets into acidification, eutrophication and control of minewater discharges.

In the second part are chapters on operational hydrology (which, strangely, includes integrated catchment management – worth a chapter on its own), ecological impacts and palaeohydrology. This latter chapter concentrates on drylands and breaks the dominant humid temperate framework of the book.

Wilby himself wraps up the book with an integrative Chapter 9 – he in fact addresses the holistic potential of contemporary hydrology. This is a useful book and supports the continuing revolution in the nature of hydrology and its practitioners. Their role in a sustainable society may take further decades, but to have ecohydrology and environmental change between the covers of a hydrology text shows how far we (in geography) have come so far!

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RESOURCE AND ENVIRONMENTAL MANAGEMENT by Bruce Mitchell, 1997, Addison Wesley Longman, Harlow 1997. No. of pages: xvii+298. Price: £18.99 (pb). ISBN 0-582 23796-3.

Bruce Mitchell has written this text as a replacement for his well received and widely used *Geography and Resource Analysis* (2nd edition). Although the central thrust of the book is the same – the assessment of concepts, strategies and methods of environmental and resource management – the content is significantly different. Recently, a number of 'new' versions of texts in the general field of environment have been published, many of which offer little more from the original than a refreshed reference list. This is not the case here, as can be seen immediately from the extensive and commendably up-to-date reference lists accompanying each chapter.

Mitchell picks out four main underlying themes of his text: change, complexity, uncertainty and conflict. He also uses the template of sustainable development to underwrite his

management focus, and employs an ecosystems framework to achieve that end. The political ecological context of topics such as environmental impact assessment and conflict resolution has moved on significantly in the last decade, and this is reflected appropriately here.

Despite the lack of overtly focused geomorphic material, there is much to interest the reader here. The context within which geomorphologists act as consultants, or as members of environmental teams, requires an understanding of the ways in which human systems impinge on geomorphic process and *vice versa*. To be fully effective, today's environmental geomorphologist may require a basic understanding of the implications for his or her applied work of such topics as forecasting and backcasting, cost-benefit analysis, life cycle assessment, stakeholder/consultant relationships, rapid rural appraisal, local knowledge systems, dispute resolution and environmental auditing. Even gender roles may play a part in how solutions to geomorphic problems may be interpreted and implemented at local level in developing areas. These topics, and others found within this book, illustrate eloquently for all earth scientists that effective environmental

management, at all scales and in all areas of the world, requires a wider awareness beyond the individual specialization. The text also bears testimony to the value of 'bottom-up' or 'participatory' approaches towards the solution of a range of environmental problems.

The balance between text and illustrations is about right. Although less lavishly illustrated than some of its competitors, Mitchell balances this with frequent text boxes to highlight key points. Although there is, perhaps inevitably, some emphasis on North American material, there is a wide range of case studies from the developing world.

Furthermore, the 'first world' lessons learned here are frequently transferrable to recognizable analogues in the 'third world'. The strengths of this book, as in *Geography and Resource Analysis*, remain the wide range of strategies and methods included, and their clear and concise exposition. A wide range of undergraduate, and many postgraduate, students will find this a stimulating and rewarding text.

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